In the Claims:

Please amend the claims as follows:

1. (Previously Amended) A 2 X 2 optical switch having a main propagation axis, comprising:

a) a first 3 dB adiabatic coupler having

    i) a first pair of constant width, asymmetric waveguide branches, each said branch extending between a proximal end and a distal end, each said branch having a curved section with a variable curvature, said branches separated over a coupling length by a changing spacing therebetween and blending in a symmetric intersection area at said distal end, and

    ii) two symmetric branches connected to said intersection area at said distal end,

b) a second 3 dB adiabatic coupler having

    iii) a first pair of constant width, asymmetric waveguide branches, each said branch extending between a proximal end and a distal end, each said branch having a curved section with a variable curvature, said branches separated over a coupling length by a changing spacing therebetween and blending in a symmetric intersection area at said distal end, and

    iv) two symmetric branches connected to said intersection area at said distal end, wherein said first and second adiabatic couplers facing each other along the main optical propagation axis in a mirror image,

    c) two identical arms connecting said first and second pairs of symmetric branches optically to each other along the main propagation axis, and

    d) at least one active element coupled to at least one of said identical arms for dynamically changing an optical property of said at least one arm, whereby the implementation of the switch in a planar lightwave circuit provides a switch that is practically polarization independent, and has a low loss and a very high extinction ratio over an exceptionally broad band range.

2. (Original) The switch of claim 1, wherein said asymmetry of said waveguide branches includes different waveguide widths

3. (Original) The switch of claim 1, wherein said variable curvature is defined by a finite number of different radii.

4. (Previously Amended) The switch of claim 1, wherein said variable curvature is defined by a plurality of smoothly and monotonically varying radii.

5. (Previously Amended) The switch of claim 1, wherein said curved waveguide sections are implemented as a series of discrete circular bends with different monotonically decreasing or increasing radii values.

6. (Original) The switch of claim 1, wherein said first and second adiabatic couplers are identical.

7. (Original) The switch of claim 1, wherein each said adiabatic coupler includes a pair of symmetric input/output bends, each said bend connected to a respective said curved section of a branch at said proximal branch end and configured to match the respective width of said branch.

8. (Previously Amended) The switch of claim 7, wherein at least one of said couplers further includes a mediating waveguide located between said intersection area and said symmetric branches.

9. (Original) The switch of claim 7, wherein said connection of each said bend to a respective curved section is mediated by an adiabatic taper.

10. (Original) The switch of claim 1, wherein said couplers and said identical arms are built of silica on a silicon substrate, and wherein said optical property of said arm includes an index of refraction of said arm.

11. (Original) The switch of claim 10, wherein said extinction ratio is selected from the group consisting of an extinction ratio of at least 30 in the C+L bands, and an extinction ratio of at least 32 in the 10.3 μm wavelength window.

12. (Original) The switch of claim 1, wherein said at least one active element coupled to at least one of said identical arms includes an active element on each of said identical arms, whereby a combined use of said two active elements can actively compensate for any asymmetry effect in said arms.

13. (Withdrawn)

14. (Withdrawn)

15 (Withdrawn)

16. (Withdrawn)

17. (Withdrawn)

18. (Withdrawn)

19. (Withdrawn)

20 (Withdrawn)

21. (Withdrawn)

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Cancelled)

26. (Cancelled)